M.R.O. 1—77,006—8-6-37.

(1) Number of pages 43

(2) Date of repair ________

(3) Initials of the Referencer ________

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 844	Press / Mis.
(430-437)	
Dated 18 · 3 · 1873.	

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
18th March 1873.

Read the following papers :—

No. 430. From the Officiating District Engineer, South Arcot, to the Chief Engineer for Irrigation, dated Cuddalore, 6th February 1873, No. 42.

I HAVE the honour to re-submit the plans, estimates, and specifications connected with the project for cutting a channel from the Pooniar river for the supply of certain villages in the Cuddalore Taluq; these were returned with observations contained in your memorandum No. 10 of the 12th January 1870.

1 Survey with Sections.
4 Plans.
1 Estimate.
2 Specifications.
1 Revenue Statement.
1 Note.
1 Copy of Convention.

2. This project, as you have been informed by Colonel Foord, R.E., in No. 146 of 25th November 1869, has been under consideration since 1839, and the delay that has taken place in re-submitting these papers is due to the frequent changes of officers in the range, as also to a want of interest in the scheme exhibited by the French Authorities, owing to the fact, I believe, that they see very little prospect of any ulterior benefit to themselves from the work.

3. After a good deal of correspondence and delay, I was directed, as Range Officer, in the month of April last to meet the French Authorities on the spot and show them the line of channel decided upon for the second time by this department; at this meeting some slight alteration in the line of channel we had proposed was again suggested, and some additional masonry works; there being no particular objections to this proposal, I was finally able to revise my plans and estimates and submit them to the late Superintending Engineer, by whom they were sent to the Collector for his countersignature and approval; these have now been returned to me, and I do myself the honour to forward them on to you without loss of time, and trust the project will meet with your approval.

4. The channel is intended to supply direct irrigation to lands situated in Goondoo Ooppalavady and three other villages, in which are 219-10-8 cawnies, available for irrigation (171-2-1 cawnies of punjah into nunjah, and 48-8-7 cawnies of nunjah which has at present no source of irrigation, but depend on local rains).

5. The minimum depth of water in the channel is expected to be one foot. Considering how irregular the freshes in the Pooniar are as to their times, height, and duration, it is exceedingly difficult to state accurately how much water this channel will deliver, and the probability of the Ooppalavady lands being irrigated can only be ascertained from the results of similar channels in the Pooniar irrigating under the same conditions; this has been done and the following information has been obtained :—

Marathadoo ...	130 Cawnies	Direct irrigation from river Pooniar.
Nuttaputt ...	130 ,,	
Thottaputt ...	64 ,,	
Kondoor ...	60 ,,	

In the same way there are other channels from this river affording direct uninterrupted irrigation.

6. The Ooppalavady channel, with a depth of one foot water, should discharge 1,115 cubic yards per hour, or sufficient for 276 cawnies at 4 cubic yards per hour per cawny; and it is presumed that this supply will be available throughout the season of cultivation, as the river under the Pooniar bridge situated about 2 miles below the head of the channel is never without a very fair summer stream.

7. The revenue that may be expected therefrom is Rupees 1,252, on an outlay of Rupees 6,250, gives a return of Rupees 20 per cent.; but making every allowance for bad seasons, 15 per cent. may, I think, be fairly calculated upon. The estimate is higher than when it was last submitted, but this is due to extra masonry works required by the French Authorities.

8. When I inspected the line of channel with the French Authorities, it was admitted by Mr. Carriall, the French Engineer, that no French land except at the tail end of the channel would be commanded by it, and very little is even then available for cultivation in French limits. I am therefore of opinion the channel will supply all the water that will be required.

9. The masonry works in this channel are few in number and unimportant, and do not need to be specially described here.

No. 106.

No. 430A. *Note by the Chief Engineer for Irrigation.*

In November 1869, the Superintending Engineer, 5th Division, submitted an estimate, amounting to Rupees 4,720, for cutting a channel from the Pooniar in South Arcot for the irrigation of certain lands in Ooppalavady and other villages. It appears that this project has at different times during the last thirty-three years been under consideration; but it being necessary to carry a part of the channel through French territory, difficulty was experienced in settling the arrangements, and it was not until 1869 that the line to be followed was agreed upon.

2. The information submitted with the project of 1869 not being sufficiently complete, a reference was made to the Superintending Engineer, and now, with his letter No. 42 of the 6th February 1873, the present District Engineer has sent up a revised scheme, the estimated cost of which is Rupees 6,250, supported by a revenue statement, a copy of the convention with the French Government, and the usual estimates and plans of details. The survey and sections do not, as they should have done, show the exact line to be followed by the channel, as certain small modifications, made at the suggestion of the French Authorities, do not appear therein, and it would seem moreover that this survey is not the plan which was before the parties to the convention at the time the latter was drawn up. As, however, the convention itself appears to be sufficiently precise, it has not been thought requisite to delay any longer the submission of the project to Government.

3. The scheme provides for supplying water to 219 cawnies or about 290 acres by means of a channel having a bottom width of $4\frac{1}{2}$ feet, to which it is anticipated that the river will afford water to a minimum depth of one foot during the time necessary to irrigate the lands concerned without the aid of tanks, which are not available. With the intended fall of $1\frac{1}{2}$ feet a mile, this channel will carry about 1,080 cubic yards per hour, which, as the actual quantity likely to be required for the acreage is but 580 cubic yards per hour, at the rate of 2 cubic yards per acre, may be accepted as a sufficient allowance to compensate for fluctuations in the supply, and to provide for the branch channel which will probably be constructed by the French Government, and which, by the convention, is to be allowed a head sluice with a vent $1\frac{1}{2}$ feet wide, and water sufficient for one-third of the area of the Ooppalavady land (by which one-fourth of the whole supply appears to be intended), so that the channel may be taken as designed to supply 387 acres, and the allowance per acre per hour at the supposed minimum depth of

water is nearly 2·80 cubic yards. The information rgarding the water supply in the Pooniar is not as definite as is desirable, and it would have been preferable had the discharge at the Pooniar bridge been gauged and the minimum supply during the season of irrigation ascertained. Colonel Foord, however, appears to have entertained no doubt as to water being sufficiently abundant, and Mr. Norfor says (end of paragraph 6) that the river at the bridge is never without a very fair summer stream.

4. The revenue statement shows that the expected returns from the project will be derived from $48\frac{1}{2}$ cawnies of land classed as nunjah, but which at present have no artificial supply, and from $171\frac{1}{8}$ cawnies of punjah to be converted into nunjah, and subjected to an additional assessment of Rupees 5 an acre. The money returns are thus estimated at Rupees 1,252-14-5, or about 20 per cent. on the amount required for carrying out this scheme.

5. The project appears likely to be fairly useful and remunerative, and its sanction is therefore recommended.

CHINTACOONA, (Signed) J. MULLINS, Lieut.-Colonel, R.E.,
19*th February* 1873. *Chief Engineer for Irrigation.*

No. 431. ORDER THEREON, 18th March 1873, No. 844.

IRRIGATION, No. 18.

THE Government sanction the estimate of Rupees 6,250 for cutting a channel from the Pooniar to supply 290 acres of land in Ooppalavady and other villages in South Arcot, and they approve of the arrangements which have been made with the French Government at Pondicherry, whereby, in consideration of the grant of permission to carry the channel through French territory, that Government is to be allowed to cut a branch channel, in conformity with Article 4 of a Convention dated the 21st December 1872.

2. The expected returns from this project amount to about 20 per cent. on its estimated cost, and they afford a sufficiently wide margin for contingencies due to unfavourable seasons, etc., which, for a work of this kind, cannot be very accurately calculated.

3. Funds for carrying out this scheme are not likely to be available in 1873-74, and the District Engineer will accordingly enter the work in his Budget list for 1874-75.

(True Extract.)

Lieut.-Colonel, R.E.,
Joint Secretary to Government.

To the District Engineer, South Arcot.
,, Controller of Public Works Accounts.
,, Revenue Department.
,, Chief Engineer for Irrigation.

Exd. E. C. Shunker.

No. 146.

Superintg: Engineer's Office, 5th Dn.
Cuddalore, 25th November /69.

From

The Superintending Engineer,
5th Division.

To,

The Chief Engineer for Irrigation
and Joint Secretary to Government
Public Works Departt.

Enclosures 12.
2 Detailed estimates
2 Abstract — Do.
1 General abstract of estimate
1 Specification
1 Revenue Statement
1 Survey
4 Plans.

Sir,

I have the honor to forward, for the sanction of Government, an estimate of Rupees 4,720 [accompanied by plans, and Specification] for cutting a channel from the Ponniar for the irrigation of the lands of Oopalavandy and another village in the Cuddalore talug of South Arcot.

2. The head of the channel will be situated a little above the bridge over the Ponniar, on the Pondicherry road, and the lands lie to the East of the road. The channel has been under consideration, at different times, for more than twenty years. The difficulty that has always been in the way arises from the channel having to be cut

through

through French territory. Last year I had a fresh survey prepared, and it was forwarded, accompanied by an estimate of Rupees 1,710, by the Collector for the consideration of the Governor of Pondicherry. When re-turning it he stated that there would be no objection to the channel being cut, provided the line indi-cated by him on the survey were adopted, and the ryots in French territory had leave to draw water from the channel by picottahs.

3. The alteration of the course of the channel necessitated the revision of the estimate, the amount of which has been very much increased, as the proposed line is longer and involves more cutting than the one first selected. The revised estimate also provides for two road tunnels and two aqueducts, which were not in the original.

4 In the revenue statement furnished by the Tahsildar the increase of revenue is set down at Rupees 855, from the conversion of poonjah into nunjah. In a favorable year, like the present, I have no

doubt

doubt that amount would be real-
-ized, but hardly in a bad season.
If the channel were cut, as at first
intended, there would be no ques-
-tion as to the remunerative nature
of the undertaking.

I have the honor to be
Sir,
Your most obedt. Servant.

E A Ward Colonel R.E.
Superintg. Engineer.

To. the Supt Engr
No. 10 of 12th Jany 70

69

From
The Supt. Engin
5th Divisio
To,
The Chief Engineer
Irrigation & Joint Se
to Government
P. W. Departme

Dated 25th
Recd { November

No. 146.
Enclosures 12.
Channel from the
Poonar to Oopalava
Forwarding, for sanc
of Govt, an estimate o
Rs. 4720 for cutting
channel from the
Poonar for the irrigatio
of lands at Oopalava
in the Cuddalore Tal

Specification

For masonry works for the proposed Oopalavady Channel -

Head Sluice

The head Sluice is to be built with 2 rectangular vents of 3'×8'; closed with teak wood Shutters ~~10½"×2½"~~ as per plan
The abutments or Side wing walls and the pier will be covered over with granite lintel Stones 1'×1'.

The foundations throughout to be 4½' deep and 3'9" thick at top with offsets of 4½" to every 18" in depth.

The Side wing walls of the openings to be 9' high 6' long 1'.10½" thick at top and 3' at bottom, with 3 Steps on their inner faces.

The pier to be 9' high. 6' long with cutwater and 2' thick -

There will be 3 lintel Stones 1'×1' at a height of 3½' above flooring, between the abutments and pier, to receive the Shutters -

The front returns to be 10¼ feet in length, and 9' in height. These and the Side wing walls will be built with 3 Steps on their interior face. the top thickness being 1' 10½" and the bottom 3 feet (see Sec C.D)

The wing walls in rear will have an outward Splay of 2¼' in a length of 9' and will fall from 9' to 6' in height. the remainder of the wing walls will run out Straight for a length of 8' with a height of 6 feet -

The front retaining wall to be in line with the returns and of the Same dimensions as the foundations of the wing walls &ca

The rear retaining wall to be 4' 6" deep between the wing walls 1' 6" thick at top and 2' 6" at bottom

The flooring between wing walls to be 1' 6" thick throughout.

The whole to be built of the best brick in chunam and all exposed parts to be plastered with 2 coats of chunam

The aqueducts and Tunnels to be built according to Standard plans, in Foord's Notes.

Range Office No. 1
Cuddalore
14: July 1870

W. A. Purchas
Lieut. R.E.
Assistant Engineer
No. 1 Range S. Arcot.

E. A. Foord Colonel R.E.
Superintending Engineer 5th Dn.

CE
No 188/73
Sanctioned in G.O. ...
8449-18-3-73
D.P.W. 56...

P.W. 1265 1/2

Specification for Irrigation Works proposed for ... Channel from the Paar... at Oppalavadi in ... Cuddalore Taluk

Notes on Oopalavady Channel.

Object of channel. — This channel is designed to convey the water of the Poonar, to the dry cultivated lands of Oopalavady village in Cuddalore Taluq. These lands which aggregate 219 Cawnies will be converted into wet cultivation, by means of direct irrigation from the channel and it is expected that other lands will also be benefited by it whenever freshes come down the Poonar.

The channel being taken from the deep side of the river will receive water from all freshes, but it will mainly depend for its supply, on the drainage and Springs in the bed of the river. The length of the channel from its head to the branch channels near Oopalavady is about 3 miles. (See Longitudinal Section).

The channel is to have a fall of 1½ feet per mile. The Sole 4½ feet, and the side Slopes to be 2 to 1 on account of the loose nature of the soil. It will be partly in cutting and partly embanked. (See Sections).

Head Sluice. — The channel is to be provided with a Head Sluice of 2 vents of 3 feet each, 3 Tunnels under district roads and 2 Aqueducts.

Capacity of discharge of channel. — With one foot of water passing over the sides of the Head Sluice the channel will discharge about 1115.14 Cubic yards per hour.

This depth of one foot will be the ordinary drainage of the river in the dry season, but during

freshes

freshes, the depth of water in the channel will of course be much more, at the allowance of 2 Cubic yards per hour per acre hitherto adopted in this Department the lands to be irrigated /219 Cawnies/ will require 584 Cubic yards per hour.

The increase of Revenue will be about Rupees 1,095.

The amount of the estimate as revised is Rupees 6,340.

[signature]
Executive Engineer,
No. 1 Range, S. Arcot.

[signature] Colonel, R.E.
Superintg. Engineer, 5th Divn.

C.E.
10/[illegible]/73
Sanctioned [illegible]
B 844 - 18 [illegible]
[illegible]

P.W. 1265/73.
Notes on [illegible]
Channel Project.

Statement showing the Nunjah as well as Punjah lands in the villages of Oopalavady &ca which will be brought under wet cultivation by cutting a Channel from the Ponniar River to Oopalavady in the Cuddalore Talook.

Number	Villages	Nunjah Ayacut					
		Cawnies			Assessment		
1	Oochimodoo.	5	12	3	50	5	11
2	Gunganamcooppum.	21	9	3	213	7	11
3	Suba Ooppalavady.	"	"	"	"	"	"
4	Goondoo Ooppalavady.	21	3	1	133	4	10
		48	8	7	397	2	8

Remarks.

It is ascertained from the accounts of the Village Authorities and from the deposition given by the Carnam of Suba Ooppalavady that if a Channel is cut from the Ponniar River for the supply of the Punjah lands in the villages as specified below the whole extent will be converted into Nunjah and thereby the Government will be profited by an increased Revenue of Rupees 855-11-9 in Cassar exclusive of Punjah Assessment

Goondoo Ooppalavady	Cawnies	41-12-1	at 5 Rupees	208-13-3
Peria Gunganamcooppum	do	6-15-"-"	at 5 do	34-11-"
Oochimodoo.	do	14-7-"	at 5 do	72-3-6
Suba Ooppalavady.	do	108-"-"	at 5 do	540-"-"
		171-2-1		855-11-9
Add Nunjah.		48-8-7		397-2-8
		219-10-8		1252-14-5

16th February 1868.

(Signed) M. Sambamoorthia
Tahsildar.

[signature]
Collector of South Arcot.

[signature] Colonel, R.E.
Superintg. Engineer, 5th Dn.

Sanctioned in 86 k
844-18-3-73
R.R. 461

R
9/188/73

P.W. 1265/73.

Statement showing the Nunjah as well as Punjah lands in the villages of Ooppalavady &ca which will be brought under wet cultivation by Cutting a Channel from the Ponniar River to Ooppalawady in the Cuddalore Talook.

15

Convention relative au Canal destiné à arroser les terres de l'aldée Anglaise d'Oupalavady.

Après visite des lieux et toutes les parties intéressées entendues dans l'enquête de Commodo et Incommodo ouverte, à cet effet, les dispositions suivantes ont été adoptées d'un commun accord entre les Soussignés ès-qualité qu'ils agissent :—

Article 1er

Le creusement du Canal demandé pour assurer l'irrigation des terres de l'aldée Anglaise d'Oupalavady est autorisé, et le tracé de ce canal, tel qu'il résulte du plan annexé à la lettre de Mr le Collecteur de la division Sud Arcot en date du 30 Mars 1872, No. 50, accepté sous la modification suivante.—

La ligne d'axe du canal en projet qui, d'après le plan, doit traverser le réservoir d'Aratchicoupom, sera reportée de 261 pieds anglais plus au Nord, et passera dans la première allée d'arbres située au bord de la digue Nord du dit réservoir.

Article 2.

Le passage des hommes et des bestiaux entre la prise d'eau du canal et l'étang d'Aratchicoupom, sera assuré par un ponceau construit

construit au point A du plan.

La même servitude sera également ménagé au point B entre la tope d'arbres et le village.

Article 3.

Le Gouvernement français se réserve la faculté de faire un embranchement sur le canal d'Oupalavady, au point qui sera le plus avantageux aux intérêts des aldées françaises d'Aratchicoupom ou d'Outchimodou, le creusement de cette branche et de son écluse de tête, devant rester entièrement à ses frais.

Article 4.

L'étendue des terres des aldées françaises ayant droit aux eaux du nouveau canal équivalant au tiers de celle des terres de l'aldée anglaise d'Oupalavady, la largeur du plafond du canal principal est fixée à 4 pieds et demi, soit 1 mètre 368 millimètres, et celle de l'écluse de prise d'eau du bras de canal français, à 0 mètre 456 millimètres.

Article 5.

Les deux Gouvernements s'engagent, par la présente, à empêcher l'irrigation des terres avec les eaux du canal, au moyen des picottes ou autres machines et à défendre de creuser des puits dans les 10 yards, des berges du canal, à partir du talus.

Ils

17 17

Article 6.

Ils s'engagent, en outre, à punir les infractions et les contraventions aux règles précitées, conformément aux lois qui sont actuellement en vigueur ou qui le seront, à l'avenir, dans leurs territoires respectifs au moment où le fait aura lieu, pourvu qu'il ait été constaté par un procès-verbal régulier.

Article 7.

Est annulée la convention signée, à Aratchicoupom, le dix-huit Avril dernier, entre les soussignés, au sujet du creusement du même canal.

Fait double, à Pondichery, le vingt et un Décembre, mil huit cent soixante douze.

Le Chef du Service des Contributions.
(Signé) Eug.ne Sée.

(Signé) R. E. Norfor,
District Engineer.

Le Chef du Service des Ponts & Chaussées
(Signé). A. Cariol

Approuvé
Le Collecteur de la Division du Sud d'Arcot.
(Signé)
H. E. Sullivan.

Approuvé.
Le Commissaire Général, Gouverneur des Etablissements français de l'Inde,
(Signé.) Faron

(True copy)
[signature]
Offg. Distt. Engr. S. Arcot.

E
1188/73

P.W. 1265/73.

Sanctioned in SG
N. 846-18-3-73

Revised Specification for a New Supplying channel from the Pooniar River to irrigate the lands of Oopalavady and other villages in the Cuddalore Talug of the South Arcot District.

1. Excavating a channel from the Pooniar River for irrigating the lands of Goondoo Oopalavady, Parea Gunganancoopum, Oochinodoo and Sooba Oopalavady.

2. Amount of Estimate Rupees 6,340 of Six thousand three hundred and forty only.

3. The extent of Punjah land to be irrigated by the channel and its branches is as follows.

Goondoo Oopalavady	Cawnies	41-12-1	Rs 208-13-3
Parea Gunganancoopum	"	6-15-"	" 34-11-"
Oochinodoo	"	14-7-"	" 72-3-6
Sooba Oopalavady	"	108-"-"	" 540-"-"
Add Nunjah as per Revenue Statement		48-8-7	397-2-8
Total	Cawnies	171-2-"	Rs 855-11-9

Rupees 13½ per cent on proposed expenditure.

4. The country through which the channel is to be taken consists principally of clay and sandy soil, the total length of the channel is 2 Miles, 7 Furlongs and 202⅓ Yards. The channel is to have a slope of 2 to 1 and the earth excavated therefrom to be thrown up as an embankment and foot path on each side at a distance of 15 feet from the edge of the channel.

5. The channel in its course will cross the following roads &ca.

1. The cart and Cattle track from the Pooniar to Arachecoopum and other small villages in the limits of Arachecoopum for which a tunnel of one vent of 6 feet span is to be provided.
2. The road from the Pooniar to Bahoor via Arachecoopum for which a tunnel of one vent of 6 feet span

is to be provided.

3. The road from Cuddalore to Pondichery for which a Tunnel of 2 vents of 6 feet span has been already built:

4. The road from Cungamancoopum to Oochimodoo for which a Tunnel of one vent of 6 feet span is to be provided.

6. In addition to the above, the channel will be provided with the following masonry work: One Head Sluice of 2 vents each 3 × 3½ feet to regulate the supply of water with a road-way 4 feet in width.

7. The three Tunnels above mentioned are necessary for the passage of traffic to the English & French villages.

8. Two Aqueducts also to be built across the Irrigating Channels.

[signature]
Executive Engineer,
No. 1 Range, South Arcot.

[signature] Colonel R.E.
Superintending Engineer 5th Dn

C

7/108/73

Sanctioned in 869
8th Feb 18-3-73
O/P 261

P. W. 1265/73.

Revised Specification for a new Supplying channel from the Ponnair River to irrigate the lands of Capalavady &c.

Amount of Estimate Rs 6250

21 21

— 5th Division, D. P. W. —

Agricultural. **New Works**

Detaild Estimate of 1872-73.

South Arcot District. — No. 1 Range. — Cuddalore Talook.

Work. — Cutting a new supplying channel from the Ponniar to irrigate the lands of Oopalavady and other villages in the Cuddalore Talook of the South Arcot District.

Particulars of work.	Number	Measurements. Length	Breadth	Depth	Total Quantity
Cutting a supplying Channel from the <u>Ponniar to Oopalavady.</u>					
Tack No. 1 at A.		500	27 1/3	11½	157,166
— „ — 2	„	400	28⅓	12	136,000
— „ — 3	„	400	28 1/4	11.85	133,905
— „ — 4	„	400	27.60	11.55	127,512
— „ — 5	„	400	25.10	10.30	103,412
— „ — 6	„	500	23.35	9.42	109,979
— „ — 7 and 8.	2	400	22.55	9	162,360
— „ — 9 and 10.	2	400	23 3/4	9 3/8	174,375
— „ — 11	„	400	22 1/2	9	81,000
— „ — 12	„	400	21.75	8 5/8	75,038
— „ — 13	„	400	21½	8½	73,100
— „ — 14	„	400	20	7 3/4	62,000
— „ — 15	„	400	18 1/4	6 7/8	50,188
— „ — 16	„	400	17 3/4	6 3/8	45,266
— „ — 17.	„	400	16 3/4	6 1/8	41,038
— „ — 18	„	400	16	5 3/4	36,800
— „ — 19.	„	400	14 1/8	4 7/8	27,544
— „ — 20	„	400	11 9/10	3 3/4	17,850
Cutting and forming Embankment from B, to C.	„	7,344	area 36 1/2	„	268,052
Total Cubic feet					1882,585
— do — Cubic yards of Earthwork.					69,725

Constructing an Head Sluice in the Head of the Channel.

Foundation to front wing walls.	1	30-"	4-6	4-6	607 1/2
— do — to pier	1	4-"	3-6	4-6	63
— do — to side walls.	2	3-"	4-6	4-6	121 1/2
— do — to — do	2	9-6	4-1/2	4-6	352 11/4
— do — to — do	2	9-"	3-9	4-6	303 3/4
Retaining wall	1	11-6	2-"	4-6	103 1/2
Flooring	2	4-6	2-3	1-6	30 3/8
— do	1	9-6	9-"	1-6	128 1/4
— do	1	11-9	8-"	1-6	141
Front wing wall	2	10-3	2-7 1/2	5-"	269 1/16
— do	2	10-3	1-10 1/2	4-"	153 3/4
Side walls.	2	5-6	2-7 1/2	5-"	143 3/8
	2	5-6	1-10 1/2	4-"	82 1/2
	2	9-6	2-7 1/2	5-"	249 3/4
	2	9-6	1-10	2-6	89 1/16
	2	8-"	2-3	5-"	180
	2	8-"	1-10 1/2	1-"	30
Pier	1	6-6	2-"	8-"	104
Retaining wall over cross stones.	2	2-"	3-"	3-6	42
Total cubic feet of Brickwork in chunam.					3196
Front wing wall	2	12-3	"	9-"	220 1/2
Side walls.	2	8-"	"	9-"	144
	2	9-6	"	7-6	142 1/2
	2	10-"	"	6-"	120
Top of side walls.	2	33-"	"	1-10 1/2	124 2/3
Pier	1	17-"	"	9-"	153
Total Square feet of Plastering or 9 1/25 Squares.					904 2/3
Cross stones	18	5-"	1-"	1-"	18
Grooved stones at bottom	2	5-"	1-"	1-"	2
Cross stones Total.					20
Teakwood for Shutters.	2	3-6	"-3"	11-"	19 1/4
Total cubic feet of Teakwood shutters including iron work.					19 1/4
Excavating foundation.					"
Baling water and Temporary dam					"
Sundries.					"

Constructing a Tunnel of 6 feet span on the Cart Track from the Ponniar to Arachicoopum, as per Standard Plan.

Foundation to flooring including side walls	1	18-"	9-6	1-6	256½
— do — do — wing walls	2	10-"	11-6	1-6	345
Retaining walls	2	13-6	1-6	1-6	60¾
Side walls above	2	18-"	1-6	7-6	405
Wing walls above	4	10-"	1-6	9-3	555
Face walls	2	9-"	1-9	1-6	47¼
Blocking course	2	9-"	1-6	"-9	20¼
Parapets	2	9-"	1-3	2-0	45
Arch	1	18-"	11-"	1-½	222¾
Total Cubic feet of Brickwork in chunam.					1912½
Square feet or $12\frac{17}{25}$ Squares of Plastering.					1268
Excavating foundation and filling.					"
Baling and Centering.					"
Sundries.					"

Constructing a Tunnel of 6 feet span across the Popalavady Channel on the road from Ponniar to Bahoor via Arachicoopum as per Standard Plan.

Foundation to flooring including side walls.	1	18-"	9-6	1-6	256-6
— do — do — wing walls.	2	8-"	11-6	1-6	276-"
Retaining walls.	2	13-6	1-6	1-6	60-9
Side walls above	4	18-"	1-6	5-"	270-"
Wing walls above	4	8-"	1-6	6-10¼	329-"
[illegible]ce walls	2	9-"	1-9	1-6	47-3
[illegible]locking course	2	9-"	1-6	"-9	20-3
[illegible]apets.	2	9-"	1-3	2-"	45-"
[illegible]h.	1	18-"	11-"	1-½	222-9
Total Cubic feet of Brickwork in chunam					1527-6
[illegible] feet or 7½ Squares of Plastering					768
[illegible]ting foundation and filling.					"
[illegible] water [illegible] and Centering.					"
[illegible]es.					"

Constructing a Tunnel of 6 feet span on the road from Gunganamcoopum to Oochimodoos as per Standard Plan.

Foundation to flooring including side walls	1	18-"	9-6	1-6	256-6
do do wing walls	2	5-"	10-9	1-6	161-3
Retaining walls.	2	12-"	1-6	1-6	54-"
Side walls above	2	18-"	1-6	1-7½	87-9
Wing walls above	4	5-"	1-6	4-2	125-"
Face walls	2	9-"	1-9	1-6	47
Blocking course	2	9-"	1-6	"-9	20-3
Parapets.	2	9-"	1-3	2-"	45-"
Arch.	1	18-"	11-"	1-1½	222-9
Total Cubic feet of Brickwork in chunam					973-9
Square feet or 5 Squares of Plastering.					507
Excavating foundation and filling.					"
Baling and Centering.					"
Sundries.					"

Constructing 2 Aqueducts across the proposed new line of the Channel from the Ponniar to irrigate the Oopalavady fields.

Foundation to abutment	2	7-9	2-9	3-"	127-10½
do to wing walls.	4	11-"	2-9	3-"	363-"
Flooring	1	7-6	5-6	1-6	61-10½
Retaining walls	2	5-"	1-6	1-6	22-6
Abutments.	2	7-"	2-"	5-"	140-"
Wing walls.	4	11-"	1-9	6-"	462-"
Parapet walls	2	32-"	1-3	3-"	240-"
Outer walls between parapet walls (Flooring)	2	12-"	4-"	1-"	96-
do do	1	8-"	4-"	"-3	8-
Retaining walls under do	2	4-"	1-6	"-9	9-
Total Cubic feet of Brickwork in chunam.					1530
Squares of Plastering.					3
Stones (8×1×½).					
Excavating foundation.					
Sundries.					

Abstract.

Quantity	Description of work.	Rate	Per	Amount	Total
	Cutting a Supplying Channel from the Ponniar to Oopalavady.				
69725	Cubic yards of Earthwork	" 1 "	Cyd	4357 13 "	
	Sundries			42 3 "	4400 " "
	Constructing an Head Sluice at the Head of the Channel.				
3196	Cubic feet of Brickwork in chunam	" 2 "	Cft	399 8 "	
9	Squares of Plastering with 2 coats.	2 8 "	Sqre	22 8 "	
20	Cross stones.	4 8 "	Each	90 " "	
19¼	Cubic feet of Teakwood for Shutters including iron work.	3 4 "	Cft	62 9 "	
	Excavating foundation.	" " "	"	30 " "	
	Baling water and Temporary dam.	" " "	"	30 " "	
	Sundries.			25 7 "	660 " "
	Constructing a Tunnel of 6 feet span on the Cart Track from Ponniar to Arachicoopum as per Standard Plan.				
1912½	Cubic feet of Brickwork in chunam	" 2 "	Cft	239 1 "	
12 17/25	Squares of Plastering with 2 coats.	2 8 "	Sqre	31 11 2	
	Excavating foundation and filling.	" " "	"	6 " "	
	Baling and Centering.	" " "	"	10 " "	
	Sundries			13 3 10	300 " "
	Constructing a Tunnel of 6 feet span across the Oopalavady Channel on the road from Ponniar to Bahoor via Arachicoopum as per Standard Plan.				
1527½	Cubic feet of Brickwork in chunam.	" 2 "	Cft	190 14 "	
7½	Squares of Plastering with two coats.	2 8 "	Sqre	18 12 "	
	Excavating foundation and filling.	" " "	"	6 " "	
	Baling and Centering.	" " "	"	10 " "	
	Sundries.			9 6 "	235 " "
	Constructing a Tunnel of 6 feet span on the road from Gunganamcoopum to Oochimodoo, as per Standard Plan.				
974	Cubic feet of Brickwork in chunam	" 2 "	Cft	121 12 "	
5	Squares of Plastering.	2 8 "	Sqre	12 8 "	
	Excavating foundation and filling	" " "	"	6 " "	
	Baling and Centering.	" " "	"	10 " "	
	Carried over.			150 4 "	5595 "

	Brought over				150 4 "		5595 "
	Sundries				4 12 "		155 "
	Constructing 2 Acqueducts across the proposed new line of the Channel from the Ponniar to irrigate the Popalavady Paddy fields.						
1530	cubic feet of Brickwork in chunam	" 2 "	Cft.		191 4 "		
3	Squares of Plastering with 2 coats	2 8 "	Sqre		7 8 "		
7	Stones (8'x1'x½')	5 " "	Each		35 " "		
	Excavating foundation	" " "	"		10 4 "		
	Sundries				6 4 "		
	Total for 1 Aqueduct				250 " "		
	do for another as above				250 " "		500 "

Total Amount of Estimate Rupees. — 6250 "

Rupees Six thousand two hundred and fifty only.

No. 1 Range Office S. Arcot }
Cuddalore, 5th November 1872 }

(Signed) R. E. Norfor
Executive Engineer
No. 1 Range, S. Arcot

A. Wallis [signature]
Collector of South Arcot.

E A ... Colonel, R. E.
Superintending Engineer, 5th Dn

Ri:
6./188/73

5th Division, D. P. W.

South Arcot District.

No. 1 Range.

Sanctioned in 86 h
8414 - 18 March 73
R.No. 261

P.W. 1265/73.

Estimate for cutting a new Supplying Channel from the Ponniar to irrigate the lands of Oopalavady and other villages in the Cuddalore Talook of the South Arcot District.

Amount of Estimate Rs. 6250---.

MEMORANDUM

Requested for reference the under-mentioned papers :—

1 { See the original Papers submitted with Chief Engineer's not No. 506-19 Feb/73 printed in SG No. 8214-18 March 1873.

2 — Public Works Circuit No. 6940 of 1875 - not disposed of

3 — SG No. 374 - 5 Feby 1869.

Dismissed 5/2/76

Office of the Chief Engineer for Irrigation, } 4-2- 1876 }

L. W. Hanbury
Head Clerk.

To

The Registrar of the P. W. Secy.

(3.1)

MEMORANDUM.

31/for 2403 31/73

REQUESTED for reference the under-mentioned papers

Survey & 4 plans with the S. Arch. Dist. Engineer No. 42 printed with file No. dated 18 March 73.

+ 5 (?) plans supplied on Chief Engr's letter 2403/73

OFFICE OF THE CHIEF ENGR. FOR IRRIGATION, P. W. Department,
27 Nov 1873.

D. W. Hamilton
Head Clerk.

To
The Registrar of the Mr Secretariat

No. 106

Note by the Chief Engineer for Irrigation-

In November 1869 the Superintending Engineer 5 Division submitted an estimate, amounting to Rupees 4720, for cutting a channel from the Poonar in South Arcot for the irrigation of certain lands in Oopalavady & other villages- It appears that this project has, at different times during the last 33 years, been under consideration; but, it being necessary to carry a part of the channel through French territory, difficulty was experienced in settling the arrangements, and it was not until 1869 that the line to be followed was agreed upon-

2. The information submitted with the project of 1869 not being sufficiently complete, a reference was made to the Superintending Engineer, & now, with his letter No. 42 of the 6th February 1873, the present District Engineer

Engineer has sent up a revised scheme, the estimated cost of which is Rupees 6250, supported by a Revenue statement, a copy of the convention with the French Govt. & the usual estimates & plans of details. The survey & sections do not, as they should have done, show the exact line to be followed by the channel, as certain small modifications, made at the suggestion of the French authorities, do not appear therein, and it would seem moreover that this survey is not the plan which was before the parties to the convention, at the time the latter was drawn up. As however the convention itself appears to be sufficiently precise, it has not been thought requisite to delay any longer the submission of the project to Government.

3. The scheme provides for supplying water to 219 Cawnies or about 290 acres, by means of a channel having a bottom width of 4½ feet, to which it is

anticipated

that the river will afford water to a minimum depth of 1 foot during the time necessary to irrigate the lands concerned without the aid of tanks, which are not available. With the intended fall of 1½ feet a mile, this channel will carry about 1000 cubic yards per hour, which, as the actual quantity likely to be required for the acreage is but 580 cubic yards per hour, at the rate of 2 cubic yards per acre, may be accepted as a sufficient allowance to compensate for fluctuations in the supply. To provide for the branch channel, which will probably be constructed by the French Govt., and which, by the convention, is to be allowed a head sluice with a vent 1½ feet wide, and water sufficient for one-third of the area of the Oopalavady lands (by which one-fourth of the whole supply appears to be intended), so that the channel may be taken as designed to supply 387 acres

acres, and the allowance per acre per hour at the supposed minimum depth of water is nearly 2.80 Cubic yards. The information regarding the water supply in the Poonear is not as definite as is desirable, and it would have been preferable had the discharge at the Poonear bridge been gauged & the minimum supply during the season of irrigation ascertained. Colonel ~~Foord~~ however appears to have entertained no doubt as to water being sufficiently abundant, and Mr Norfor says (end of para 6) that the river at the Bridge is never without a very fair summer stream.

4. The Revenue statement shows that the expected returns from the project will be derived from 468½ cawnies of land classed as Nunjah, but which at present have no artificial supply, & from 171⅛ cawnies of Poonjah, to be converted into

Nunjah

Punjab and subjected to an additional assessment of Rupees 5 an acre. The money returns are thus estimated at Rupees 1252-14-5 or about 20 per cent on the amount required for carrying out this scheme.

5 The project appears likely to be fairly useful & remunerative, & its sanction is therefore recommended.

Chintacoonta
19th February 1873.

[signature] Lt Col RE.
Chief Engr. for Irrigation

To
The Secretary to Govt.
P. W. D.

№ 1265

M 430 A

A° 844. 18° Moelyyz

No. 872

Public Works Department

Proceedings of the Madras Government

Read the following

Note by the Chief Engineer for Irrigation. } C.E. No. 106 d/19th Feby/73

W.S.C.

The Government sanction the estimate of Rupees 6250 for cutting a channel from the Pooniar to supply 290 acres of land in Oopalavady & other villages in South Arcot, & they approve of the arrangements, which have been made with the French Govt. at Pondicherry, whereby, in consideration of the grant of permission to carry the channel through

through French territory, that Govt is to be allowed to cut a branch channel, in conformity with article 4 of a Convention dated the 21st December 1872-

2. The expected returns from this project amount to about 20 per cent on its estimated cost, and they afford a sufficiently wide margin for contingencies due to unfavourable seasons &c, which, for a work of this kind cannot be very accurately

491

curately calculated.

3. Funds for carrying out this scheme are not likely to be available in 1873-74, & the District Engineer will accordingly enter the work in his Budget list for 1874-75.

G.W.W. ?? 20/2/73

To the Dt Engr S. Arcot ✓
" Controller ✓
" Rev. Deptt ✓
" Ch. Engineer for Irrign ✓

Despd 21/3/73

1888

No 1265

Govt. of {1873} Madras.

PUBLIC WORKS.

To The District Engr
South Arcot

Dated

Recd. Encl. 12
5 Plans

G. O 18th March 1873 No. 844.

Nos 430 & 431

Channel. Passing orders
on Note by the Chief Engr. for
Irrigation submitting estimate
for the Oopalavady
Channel project, [illegible]
South Arcot Dt.-

No 430-31.

61st May/73

P. W. 1873 Department

(15) No 1265.

From
The Chief Engr.
for Irrigation
To
The Secretary to Govt.
P. W. D.

No 106.

Dated 19th
Recd 25th Feb 1873.

Encl: 12 retd: to Chf. Engr. for Irrgn.
5/2/76

12 enclosures wanting
& 5 Plans given to Chief Engr. &
C No. 2403/73 - 27-11-73

Recommends the
sanction of the project
for cutting a channel
from the Ponniar to
supply 290 acres of
land in Oopalavady
& other villages

2-10-44 ✓

13/11/22 B.II ✓

8-11-45 VI ✓

18-2-46 VI ✓

MADRAS RECORD OFFICE.

Government Records.

Public Works Department.

G. O. (Printed).

Dated 18-3-1873

No. 844

Back No. 430-431